

NOVEMBER 1979

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COME AND SEE US AT BREADBOARD

The second hobby electronics exhibition 'Breadboard '79' is being held this year at the Royal Horticultural Halls (Westminster Exhibition Centre), Elverton Street, London W1. The exhibition has moved from last year's venue to this larger hall to give more room for more exhibitors and more visitors following the overwhelming success of last year's show. The new site is easy to reach, being just a few minutes walk from St. James' Park Underground Station (see map on page 15). The exhibition will be opening this year on Tuesday, 4th December and ending on Saturday, 8th December. It will be open each day from 10 a.m. to 6 p.m. and the entrance fee will be £1.00 (students 70p).

Maplin will be there with a huge stand with plenty of space for you to stroll around and look at all our projects. Every one of them will be on display and the organ and synthesiser will be on continuous demonstration all week. The organ will be being played by professional organ demonstrator John Parker who regularly plays live on local radio and the synthesisers will be being played by Mike Beecher who teaches and composes electronic music and has written many articles about synthesisers for the music press. Mike is also engaged at the moment in writing a book about how our 5600 synthesiser works from the musician's point of view, including descriptions of numerous patches to obtain specific sounds. We hope to have the book available shortly.

Also on our stand there will be an amateur radio talk-in station GB8 BBE (Bread Board Exhibition) operating from 10 a.m. to 6 p.m. on the 2m and 70cm bands. Special QSL cards will be available from our stand. We hope to have a video film to show you what it's like at Maplin. The film follows the progress of an order right through the mail order system with every stage carefully explained.

For sale we shall have kits of our projects, special offers, catalogues, leaflets and lots (though not all) of the thousands of other lines that we stock, such as books, tools and test equipment, headphones, effects units and much more.

With over a hundred other stands and seventy other exhibitors, 'Breadboard '79' promises to be THE show of the year for the electronics enthusiast. All of us who will be at the show hope you will make a special effort to be there. We promise you won't regret it — it's going to be a tremendous show.



WORLD SHORTAGE OF DIGITAL IC'S

We are experiencing considerable difficulties at the moment in obtaining stocks of some of the more popular 74LS and CMOS IC's. We have just been advised that our January 1980 delivery which we booked last April cannot now be delivered until May 1980. We are therefore forced to buy these parts where and when we can. With manufacturing users buying for example 4011BE in 50,000 lots and willingly paying 20p each just to get stock, it is clear that we could not hold our price at 16p each including VAT. We regret the price rises and in some cases our inability to obtain stocks at any price, but trust that you can appreciate the present difficult situation. At time of writing we have 8 out of 112 CMOS IC's out of stock, but the situation changes daily, so unfortunately we are unable to give more detailed information.

HANDLING CHARGE GOES UP

We very much regret having been forced finally to increase our small order handling charge after many years. During this time the value of the pound has more than halved and the cost of postage and packing more than doubled. The new charge which will take effect immediately is 30p on orders whose total value is less than £4.

0.1IN. MATRIX BREADBOARD INSERT

This month we carry for the first time an insert from one of our suppliers, giving full details of our superb range of solderless breadboards. For our latest prices see under 'Back Issues of Newsletters' — March 1979 edition.

CHRISTMAS 1979 OPENING HOURS

Shop Open Christmas Eve!
Over Christmas our Westcliff Shop will be open one day extra to help with your last minute shopping. Details as follows:—
Week ending 22nd December: Normal opening hours.
Week ending 29th December: Open 9am-5.30pm Monday 23rd, Thursday 27th, Friday 28th, Saturday 29th. Closed all day Christmas Day and Boxing Day.
Week ending 5th January: Open 9am-5.30pm Wednesday 2nd to Saturday 6th. Closed all day New Year's Eve and New Year's Day.
Week ending 12th January: Normal opening hours.
The mail order department will be closed over the Christmas period from 4.30pm on Christmas Eve until 9.00am on January 2nd 1980.

WARNING MICROSWITCHES

We are advised by the manufacturer of the 'Roller Microswitch' (FH95D) that one batch we received may have had an electrical fault which make them very DANGEROUS TO USE. The switches were probably sold by us between 22nd August 1979 and 14th September 1979. The faulty switches have one of the following batch numbers printed on the switch body above the rating: 7931, 7932, 7933, 7934, 7935, 7936, 7937, 7938, 7939. If you have one of these switches used or unused return it to us immediately for replacement or refund. Postage will be refunded. We apologise for the inconvenience and assure you that only switches with the batch numbers listed above are affected.

Special Offers	Page 16
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ASCII Keyboard	Supp. 2
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Complete Price List	Page 5

CURRENTS GET BIGGER IN AMPLIFIERS

We receive lots of letters from customers who can't understand where all the current in speaker loads comes from. For instance, in the specification for our 50W Amp on page 263 of our catalogue, we state that, with the power supply shown the amp will deliver 72W rms into 4 ohms. The current required to do this can be found from the formula:

$$\text{Power} = I^2 R \text{ Watts, or}$$

$$I = \sqrt{\frac{W}{R}} = \sqrt{\frac{72}{4}} = \sqrt{18} = 4.25 \text{ Amps rms.}$$

The snag is that the maximum current that the transformer can deliver is 1½A rms. So how can this be?

It can happen because the AC current in the load is not the same AC current produced by the transformer. This is obvious when you consider that the current travels from the transformer to the load via the power rails, and the current on the power rails must be and is DC. The rms voltage generating the current in the load is $E = IR = 4.25 \times 4 = 17V$ rms. So we have used the bridge rectifier and smoothing capacitors to effect one transformation — from 56V rms to 80V DC and the push-pull output transistors to effect a second transformation — from 80V DC to 17V AC, each time with an appropriate current change so that the law $E = IR$ is adhered to.

What we are attempting to do is generate 72W in the load, but we can't compare the currents through the circuit because of the two transformations. However, in transformations, if the voltage goes up, the current goes down and vice versa, so we can always say that the current times the voltage (IV) prior to the transformation is equal to IV after the transformation. IV of course, is the power and the power at the transformer (1.5×56) is 84W, whereas we only require 72W at the output. So if we follow it through, at the transformer $IV = 1.5 \times 56 = IV$ on the power rails = $I \times 80$. So the current on the power rail is 1.05A. At the second transformation, $1.05 \times 80 = 17 \times I$, or $1.05 \times 80 = 4.9$ Amps.

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So the current available to the load is 4.9A, and since it only requires 4.25A we will easily meet our specification. The remainder of the current 0.65A is used up in inefficiencies, since the amplifier is naturally not a theoretical, perfect amplifier, but a real one — it is the current that causes the heating effect in the power transistors etc.

ACOUSTIC GUITAR TRANSDUCERS

A range of small easily fixed transducers for use with acoustic guitars. The units offer wide frequency responses comparable with the best microphones, the onset of acoustic feedback compared to a microphone is considerably delayed, and they have a very high output. They are very convenient to use; simply attach to the bridge close to one end of the saddle using the self-adhesive material supplied. This material allows lifting and repositioning of the transducer without damage to the guitar. The unit may be fixed to its bevelled face to give an alternative bass response. Size 28 x 10 x 8mm. Three types are available.

Professional

The top of the range model with an exceedingly smooth frequency response. Supplied complete with connecting lead

Letters to the Editor

Surprised At Complaints

Dear Sir,
I am a dedicated electronics enthusiast and, as such, I always read your newsletter from cover to cover (except the price list — that tends to get a bit boring after a time). Ever since your superb new catalogue came out and you were unable to continue the normal excellent service you've been inundated with complaints. This I find surprising and I suggest to any would-be moaner that he should consider the monumental task involved in supplying the components.

The local electronics shops assistants, "They're impossible to obtain," is met with Maplin supplying within 48 hours. And what's more, at lower cost.

So, perhaps we could have done with more I.C. information in the catalogue and maybe the paper quality is not perfect, but it is still a great book.

Keep it up Maplin, there are some of us who still appreciate the service!

Yours Faithfully
I. JAUNCEY
Northampton.

Suggestions For New Lines

Dear Sir,
May I first of all congratulate you on an excellent service to your customers, when I sent off my first order I expected to wait at least 8-10 days for delivery and was surprised when I received the goods 4 days later, this may I point out was during the recent postal strike. Anybody who has the indecency to complain about a service like this must be very ignorant indeed.

May I suggest a few products which I feel would be very useful additions to your range of goods, they are:

1. A cable strapping tool and accessories, such as the tytan gun used by electricians in the services.

2. A small spray gun and accessories, similar to the Humbrol airbrush.

3. A profile spotlight and colour wheel with control box, to be used in conjunction with your mirror ball.

Finally, may I say thanks again for a marvellous service, and an excellent catalogue and newsletter. Keep up the good work.

P. WREN
Aylesbury, Bucks

Censorship Not Approved

Dear Sir,
I write regarding a letter in the July '79 Newsletter by Clive and Ingrid Wagner of Coventry. I would find it difficult to disagree more with his views. His idea of what sexual behaviour would be acceptable is o.k. for him, but why does he think he has the right to dictate that his ideas should be forced onto other people.

I cannot understand how he thinks that just because Maplin include a small picture of an item, that every disco will now have one and cause the complete downfall of youngsters today. Not everyone lives the same sheltered lifestyle they must lead.

These sort of people get me very annoyed, trying to rule our lives along such a narrow line. It is my opinion that the only complaint associated with these pictures is the size, they're too small!

P.S.: I agree entirely with B. Phillips, I have never had an incorrect item sent to me and delivery is always within one working week, usually 3 days.

C. ANDERSON
Lichfield.

0 TO 5V CONSTANT VOLTAGE REGULATOR

This neat little circuit is designed to drive the motors described on page 113 of our catalogue. It is adjustable from 0 to 5V to set the speed of the motor. Once the speed is set, the voltage and hence the speed will not change regardless of the load. If the load increases, the current will increase too, up to a maximum of 1A, when the IC starts to limit the current. Note that the IC must be mounted on a heatsink (e.g. Heatsink 4Y) using a Kit (P) Plas and Thermpath.

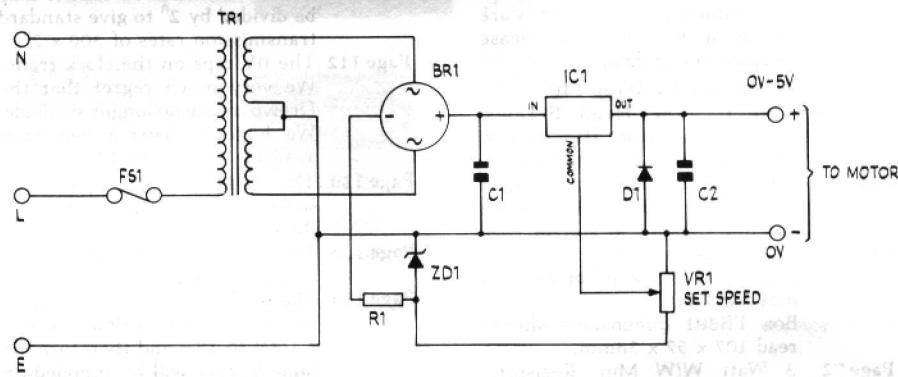
Parts List

R1 Std Res 1k
VR1 Pot Lin 1k
C1 Disc 0.1 μ F

C2 Disc 0.1 μ F
D1 1N4001
BR1 Bridge W005
ZD1 BZY88C 5V1
TR1 Min Tr 9V
IC1 μ A7805UC
FS1 Fuse 20mm 0.5A

Also required:

Safuseholder 20
Heatsink 4Y
Kit (P) Plas
Thermpath
Wire, nuts and bolts, knob, box etc. to suit your requirements.



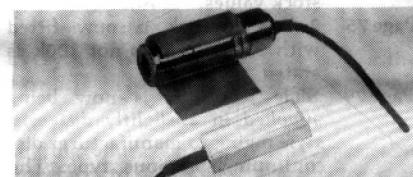
terminated in a standard mono jack plug.



Order As YL08J (Pick-up Transducer AJ21)
Price £27.95

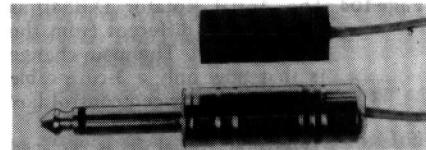
Standard

This model has a slightly emphasised treble response and is recommended for acoustic guitars in loud electric groups. Supplied with short lead terminated in a standard mono jack line socket.



Order As YL09K (Pick-up Transducer AJ51) Price £19.95

General Purpose



A low cost model requiring a fairly sensitive high impedance input. Supplied with lead terminated in a standard mono jack plug.
Order As YL10L (Pick-up Transducer AJ15) Price £16.95

Problems With Other Companies

Dear Sir,
What odd epistles! (Newsletter, July). The Wagner's letter would have been better addressed to the Radio Times. Please don't let your letters section become an agony column.

Mr. Shelley's problem sounds like a light dose of the sort of trouble I have had with another mail-order company, only with a very much larger sum than £13. After 4 months of repeated writing and telephoning I had not even secured an answer to any of my letters let alone a refund. The trick is not to write to Esther Rantzen or the News of the World, but to the advertising manager of any journal in which the firm is advertising, I guarantee this cures administrative constipation instantaneously.

Yours Faithfully
PHILLIP L. WATSON
Bedford.

Although no doubt this gets results, you should only do this as a last resort, the advertising manager is really there to help produce a magazine every month — quite a task in itself. Your local Office Of Fair Trading or Citizens Advice Bureau can be very helpful with intransigent mail-order companies, however.

4600 Synth For Sale

Dear Sir,
I have a fully completed 4600 synthesiser which I would like to put up for sale. The variations of sounds that can be obtained from the 4600 are enormous and I am more than pleased with the instrument. However, due to financial reasons I am willing to sell it for £650, or negotiable less!

Yours Sincerely
D. PULLAN
Whitley Bay, Tyne and Wear,
Tel. Seaton Delaval (0632) 481277.

Letters to the Editor

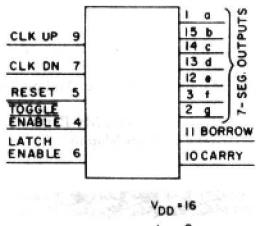
More IC Data Wanted

Dear Sir,
I would like to echo Mr. Barker's letter concerning the lack of information on I.C.s. However, what I have found surprising is the discontinuation of diagrams inside the pin-outs of the TTL and CMOS devices, examples being the 7472, 7490, 7493, etc. These diagrams are really the only indication of what is going on inside the I.C. and how it is used, apart from the indecipherable letters around the diagrams. Surely, no space will be wasted except in very complicated cases.

Also could you please print in your newsletter the pin-out of the 40110 counter (with a diagram please!).

With thanks in anticipation,

A. B. QUANTRILL
Bishops Stortford,
Herts.



It was very thoughtless of us to discard such useful information as the internal schematics of CMOS and TTL IC's. We have received a large number of letters on this subject since Mr. Barker's and we shall certainly be rectifying our omission in our 1981 catalogue.

Local Shop Said, 'Scrap Maplin'

Dear Editor,
First of all I must praise your catalogue. Considering the prices that keep going up you're doing very well. Congratulations. A couple of months ago I constructed the ETI Ambush. A very worthwhile project. I had a go at getting my components from my local shop. I wish I hadn't. I got a catalogue (about 6 pages) which was utterly useless. They didn't even have a half of the standard components I needed. I said Maplin has more than this, they have inductors. They said 'scrap' Maplin. I tell you truly, I have been with you for a year, but give me Maplin any day. They don't even offer a third of your service. One point though; in your next catalogue (1981/82) please consider better styled cabinets. Two tone textured green and blue stove enamel are alright, but, please not for the Hi-Fi range. I refer to A. Morrison's letter in the July newsletter. I've now given up trying to get MES33+B (40W Amp), it was meant to be available in April '79. It's now October. Sorry about the nit-picking, you're still by far the best.

Yours Truly
J. BIGWOOD
Forest Row, Sussex.

Of course, it would be very difficult for a small shop to stock the range we can offer, but for many people who just don't like mail order, they offer a very worthwhile service. We shall be rethinking our range of cabinets in our 1981 catalogue.

in our 1981 catalogue. Leaflets MES33 and MES33B have been available since May, but as you did not receive one, we have now sent another.

Service Not Bad Over The Years

Dear Ed.,
I have been a customer for a lot of years now and the people who write in and complain about your service should pack it in and go somewhere else, but I don't think they do, because good service always keeps customers. It seems they order some items and one is out of stock so they complain. I call this being fussy. They should go into the High Street and shop and see the difference in price and choice for e.g. resistors are 1/p in Maplin and our local shop (which is the only outlet in the area) is 4p; a big difference also they run out of stock and people don't complain to them, so I say regular customers give Maplin a chance and be patient because no project is so important, it can't wait a week or two. Many thanks for good service.

A. MERSEY
Middlesbrough

Shorter Lengths Of Enamelled Wire

Dear Sirs,
I have a suggestion that would make your excellent service even better. When you compile your next catalogue could you please sell your enamelled copper wire in metre lengths? Because, as a radio builder it is very annoying and wasteful to buy a whole two ounce reel of ec wire when all that is needed is 1-2 metres. Especially because the majority of radio coils need different SWG wire. I already have three nearly-full spools that I don't think I'll ever use.

Yours Sincerely
NIGEL KENDRICK
Shoreham Beach
Sussex.

When we first started selling this wire 2 ounces was a reasonable price, but the price of copper has gone up so much that these reels are now quite expensive. I am sure we can find a more convenient way of selling the wire.

HOW TO FIND BREADBOARD 1979

